

## Claims

1. A surface acoustic wave filter, comprising:

a piezoelectric substrate;

plural numbers of interdigital transducer electrodes

5 arranged on a surface of the piezoelectric substrate as well as on a first surface acoustic wave propagation path, reflector electrodes arranged at least at both ends of a first electrode pattern formed including the plural IDT electrodes, one or more interdigital transducer electrodes arranged on the surface of  
10 the piezoelectric substrate as well as a second surface acoustic wave propagation path which is different from the first surface acoustic wave propagation path, and reflector electrodes arranged at least at both ends of a second electrode pattern formed including the interdigital transducer electrode, and

15 wherein the interdigital transducer electrodes on the first surface acoustic wave propagation path are electrically connected in series by connection wirings, and

the interdigital transducer electrode on the second surface acoustic wave propagation path is connected between  
20 the connecting wirings and the ground, and

the connecting wirings are arranged between the first electrode pattern and the second electrode pattern.

2. The surface acoustic wave filter of claim 1,

wherein at least one surface acoustic wave resonator is  
25 formed by the interdigital transducer electrode arranged on

the second surface acoustic wave propagation path and reflector electrodes arranged at least at both ends of the second electrode pattern formed including the interdigital transducer electrode.

5           3. The surface acoustic wave filter of claim 1,  
          wherein ones of terminals of plural interdigital transducer electrodes arranged on the second surface acoustic wave propagation path are connected to the ground, and the others of terminals are connected to different connecting wirings  
10   respectively.

          4. The surface acoustic wave filter of any of claims 1 to 3,  
          wherein the plural interdigital transducer electrodes disposed on the first surface acoustic wave propagation path  
15   and electrically connected in series can be arranged so that phases of adjacent interdigital transducer electrodes are the reverse of each other.

          5. The surface acoustic wave filter of any of claims 1 to 3,  
20   wherein a reflector electrode is provided between the interdigital transducer electrodes of the first electrode pattern formed including the plural interdigital electrodes.

          6. The surface acoustic wave filter of claim 5,  
          wherein the reflector electrode provided between the  
25   interdigital transducer electrodes of the first electrode

pattern is connected to the ground.

7. The surface acoustic wave filter of claim 5,  
wherein the interdigital transducer electrodes of the  
first electrode pattern are electrically connected in series  
5 through the reflector electrodes.

8. The surface acoustic wave filter of claim 5,  
wherein in the first electrode pattern, the adjacent  
interdigital transducer electrodes are arranged so that phases  
thereof are same to each other.

10 9. A surface acoustic wave filter comprising surface  
acoustic wave resonators, comprising:

a piezoelectric substrate;

plural numbers of interdigital transducer electrodes  
arranged on a surface of the piezoelectric substrate as well  
15 as on a first surface acoustic wave propagation path, reflector  
electrodes arranged at least at both ends of a first electrode  
pattern formed including the plural interdigital transducer  
electrodes, one or more interdigital transducer electrodes  
arranged on the surface of the piezoelectric substrate as well  
20 as a second surface acoustic wave propagation path which is  
different from the first surface acoustic wave, and reflector  
electrodes arranged at least at both ends of a second electrode  
pattern formed including the interdigital electrode, and

wherein ones of terminals in the interdigital transducer  
25 electrodes on the first surface acoustic wave propagation path

are respectively connected to the ground and the others of terminals are connected to separate terminals of the surface acoustic wave resonator.